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Pankaj Oudhia's Notes on Aegle marmelos (L.) Corrêa [Kirtikar, Kanhoba Ranchoddas, and Baman Das Basu. "Indian Medicinal Plants." Indian Medicinal Plants. (1918)]

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Pankaj Oudhia

Introduction

Based on Ethnobotanical surveys since year 1990 in different parts of India Pankaj Oudhia has documented vital information about Medicinal Plants mentioned in the famous publication by Kirtikar and Basu (1918). Through this research document Pankaj Oudhia has tried to present original document with additional notes. For complete paper with pictures, Interactive Tables, Video and Audio clips please visit pankajoudhia.com

For original publication by Kirtikar and Basu (1918) please visit <https://archive.org/details/indianmedicinalp01kirt>

241. Aegle marmelos, (lorrea, h.f.b.i., I. 516

lloxb. 428.

Sails. : — Bilva.

Vern :-- Bel, sriphal (H.) ; Bel (B.) ; Bil, bel (Mar. & Guz.) ;

Bila, katori (Sind.); Lohagasi (Kol.) ; Awretpang (Magh.); Vilva-

pazham, Vilvam Tamil ; (Sinhalese) ; Beli (Tarn.) ; Mareclu,

maluramu, bilva-pandu, patir (Tel.) ; Maika, maliaka (Goncl.) ;

Kiivalap-pazham (Mai.) ; Bilapatri (Kan.)

Habitat: — Sub-Himalayan forests, from the Jhelum eastward, Central and South India. Ceylon (cultivated.)

A large or middle-sized tree, deciduous, glabrous, armed with axillary, straight, sharp, spines lin. long. Branches spiny. " Bark, Jin. thick, outer substance soft, grey, exfoliating in irregular flakes. Wood yellowish white, or greyish-white, hard, with a strong aromatic scent when fresh cut; no heartwood.

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Pores small, ringed, in small groups of two or three together, sometimes, but not always, more numerous, in the Autumn wood. Medullary rays wavy, fine, short, white, numerous, uniform and equidistant. Annual rings marked by distant lines, and often by a continuous belt of pores (Gamble.)

Leaves alternate, trifoliate. Leaflets 3 generally, sometimes 5 ; ovate-lanceolate, crenate, lateral sessile, terminal, long-petioled. Flowers ljin. diam., bisexual, 4-5-merous, greenish-white, in short lateral panicles, with a fine, sweet, honey scent. Pedicels and Calyx pubescent. Calyx flat, teeth small ; Petals imbricate ; Stamens numerous, filaments short, sometimes fascicled (J. D. Hooker), anthers linear (Brandis.) Fruit 4-6in. diam., globose mostly ; rind smooth grey or yellow. J. D. Hooker says the fruit is oblong to pyriform. The tree is very common in Western India. I have not seen the fruit in any of the two latter shapes (K. R. Kirtikar.) Seeds numerous, oblong, flat ; testa densely clothed with thick fibrous hairs, in a thick orange-coloured, sweet, aromatic, gelatinous pulp.

Parts used :— The fruit (both ripe and unripe), root bark, leaves, rind of the ripe fruit and flowers.

[Pankaj Oudhia's Comment: *More than 18 species of insects infest Bael tree. Almost all species are used in Traditional Entomotherapy. The expert Traditional Healers collect the insects from Bael tree and use it in Bael based Herbal Formulations and also in other Herbal Formulations. Not much work has been done on this interesting aspect.*

The soil collected from Termite mound growing near Bael tree is used both internally as well as externally as medicine. The Healers claim that the soil around Bael tree root zone is specially rich in medicinal properties. It may be due to Allelochemicals from roots. The Traditional Healers of

Jharkhand use this soil in more than 80 Herbal Formulations whereas in Chhattisgarh and Orissa it is added in hundreds of Herbal Formulations.

The Traditional Healers having expertise in treatment of hypertension and associated troubles use Bael Flowers externally in combination with Dahiman wood. Bael flowers are considered as a boon for the old patients of Epilepsy specially when all available remedies fail to give the desired effects. Bael flowers are added as important ingredient in Herbal Formulations of Andhra Pradesh and Karnataka.

The use of Bael flowers with Indigenous Medicinal Rice Ahirajphool is popular among the Traditional Healers of Chhattisgarh. Bael flowers are integral part of Red Rice Formulations of India.

Bael Trees growing in different climatic zones are different in medicinal properties. The Healers of Chhattisgarh prefer the Bael trees growing near pond when they use its parts in treatment of respiratory diseases. The Bael Tree growing near human population is less preferred by them. Bael tree growing near Mahua population is considered rich in medicinal properties to treat new cases of Diabetes Type 2. Both Mahua and Bael are important ingredients of Traditional Herbal Formulations used for Diabetes. For exhaustive list of these Formulations please see Table B-18.

The Traditional Healers of North India prefer the Bael tree growing near Mango Trees for collection of plant parts.],

Uses : —In medicine it is used in various ways : —

(a) The unripe fruit is cut up and sun-dried [**Pankaj Oudhia's Comment: *Shade dried or dried in shade of Neem and Kahua Trees are preferred in Traditional Healing. The Traditional Healers of Kalahandi prefer Kalmi Trees.***], and in this

form is sold in the bazaars in dried whole or broken slices. It is

regarded as astringent, digestive and stomachic, and is pres-

cribed in diarrhoea and dysentery, often proving effectual in

chronic cases, after all other medicines have failed. It seems

especially useful in chronic diarrhoea ; a simple change of the

hours of meals and an alteration in the ordinary diet, combined with bael fruit, will almost universally succeed.

The value of the fruit as a cure for dysentery is when it is unripe. (K. R. Kirtikar.)

(b) The ripe fruit is sweet, aromatic and cooling ; and,

made into a morning sherbet [Pankaj Oudhia's Comment: *In Chhattisgarh I have documented knowledge about plus 300 types of Sherbet in which Bael fruits are added as important ingredient. Most of these sherbets are not available as commercial products. These are popular among the Healers as well as natives. The Healers of Chhattisgarh prepare special Sherbet using Memri plant with Bael fruit for use in hot summer specially for Tendu Leaf collectors.*] cooled with ice, is pleasantly

laxative and a good simple cure for dyspepsia. The dried ripe pulp is astringent and used in dysentery.

(c) The root bark is sometimes made into a decoction and

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used in the cure of intermittent fever. [Pankaj Oudhia's Comment: *It acts miraculously with famous Bade Bhuineem and Chiraigoda decoctions. The young Healers of Bastar use it for treatment of Malaria The Healers of Odisha also use it for same purpose but more herbs are added in the decoction in order to increase its effects During my surveys in Niyamgiri Hills of Odisha I noted unique use of Medicinal Orchids in this decoction.*] It constitutes an ingre-

dient in the dasamul or ten roots. "Used on the Malabar Coast

in hypochondriasis, melancholia, and palpitation of the heart."

(Rheede.)

(d) The leaves are made into poultice, used in the treatment of ophthalmia, and the fresh juice diluted is praised in catarrhs and feverishness.

(e) The astringent rind of the ripe fruit is used in dyeing and tanning. It is also sometimes used medicinally,

The expressed juice of the leaves is used in ophthalmia and other eye affections. In Malabar a decoction of the leaves

is valued in asthmatic complaints. **[Pankaj Oudhia's Comment: *During recent surveys in this area I was informed by the Healers about combination of 10 types of leaves including Bael leaves as sure cure for Asthma. All leaves are collected from forest.*]** A hot poultice to the head is used in delirium of fevers.

A water, distilled from the flowers, is said to be alexipharmic.

A decoction of the root of Aegle Marmelos is given with

sugar and fried rice **[Pankaj Oudhia's Comment: *Please see the Table B-19 for list of Medicinal Rice used with root decoction of Bael by the Traditional Healers of different parts of India.*]** for checking diarrhoea and gastric irritability in infants.

" The fresh juice of the leaves is given, with the addition

of black pepper [**Pankaj Oudhia's Comment: *Black Pepper is not an essential ingredient. The Healers of different regions use different herbs in place of Black Pepper.***], in anasarca, with, costiveness and jaundice. In

external inflammations, the juice of the leaves is given internally

to remove the supposed derangement of humours" (U. K.

Dutt).

" The Mahomedans consider the ripe fruit to be hot and

dry, the very young fruit to be cold in the second degree, and

the half-ripe fruit cold in the first and dry in the second degree ;

its properties are described in the Makhzan-el-Adioiya as car-

diacal, restorative, tonic and astringent ; it is directed to be

combined with sugar for administration to prevent its giving

rise to piles. * ® * In the Concan the small unripe fruit is

given with fennel seeds and ginger, in decoction, for piles. [**Pankaj Oudhia's Comment: *During recent surveys in Konkan area I was informed about the use of Wild Moringa and Scoparia like herbs with unripe Bael fruit as treatment of Piles (Bawasir).***]

•:•:- * -:•:- ^wo t i as f the juice of the bark is given with a little

cummin in milk as a remedy for poverty of the seminal fluid"

(Dymock).

" The pulp of the unripe fruit is soaked in gingelly oil [**Pankaj Oudhia's Comment: *The Healers of different regions use different oils viz. Mahua Oil, Keonti Oil, Kusum Oil etc.***] for

a week, and this oil, smeared over the body before bathing, to

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remove the peculiar burning sensation in the soles of the feet, so

common amongst natives" (Dr. John Lancaster.) **[Pankaj Oudhia's Comment: *Please see the Table B-20 for list of 800 home remedies used for burning sensation.*]**

" Used in chronic gonorrhoea, when the pulp of the fresh fruit is mixed with milk and administered with cubeb powder.

Supposed to act as diuretic and astringent on the mucous membranes of the generative organs" (Dr. Fitzpatrick.)

" The leaves are very efficacious when pounded into a pulp without any admixture of water, and applied cold in the form of a poultice to unhealthy ulcers" (Asst. -Surgeon A. C. Mukerji.)

li The fresh juice of the leaves acts as a mild laxative in

cases of fever and catarrh, and has probably the effect of remedy-
ing these conditions" (Asst. -Surgeon Doyal Ch. Shome).

" The decoction of the leaves is used as a febrifuge and
expectorant " (Asst.-Surgn — N. L. Ghose.)

"The juice of the fresh leaves has a laxative action."
(Surgn. K. D. Ghose.)

" The root is said to be an antidote against poisonous
snakebite." (Surgn, Meadows.) Watt's Dictionary.

[Pankaj Oudhia's Comment: *The surveys conducted from year 1990 to 2013 among Traditional Snake Experts revealed that Bael plant parts are used as snake remedy both as single remedy and in combination with other herbs. Among the Snake Experts of Chhattisgarh Plains its use with Airi Kand is popular. The Healers of Bastar use it with Dang and Machadema Kand.*]

In the *Pharmaeopceia* of India, the half-ripe fruit is officinal.

The value of Bael in intestinal affections, though noticed by
Rheede (*Eort. Malab.*, vol. iif, p. 37), Burman (*Flor. Tnd. Ed.*
1768, p. 109), and other old writers, attracted little notice till
1853, when Sir Ranald Martin (*Lancet*, 1853, vol. ii., p. 53) called
the attention of the profession to it. Dr. J. Shortt and Dr. J.
Newton, as the result of their respective personal experience,
report very favourably of its action in dysentery. According to

Dr. J. A. Green, a sherbet of the ripe fruit, taken every morning, proves serviceable in the dyspepsia of Europeans, when accompanied by obstinate constipation and flatulence. He adds that the unripe fruit baked for six hours is a powerful astringent, and as such is used by the natives in dysentery. Dr. B. Bose advocates the daily use of a sherbet of this fruit during cholera epidemics as a prophylactic. At such seasons it is doubtless of service to regulate the bowels carefully, avoiding either constipation or purgation. Dr. G. Bidie (*Madras Quart.*

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Journ. of Med., 1862, vol. v., p. 44) states that the fruit of *Feronia elephantum*, or Wood-apple, which bears a general resemblance to Bael, is often substituted for it in hospital supplies, and being comparatively useless has induced many to treat the Bael with neglect. The fullest account of its properties and uses is by Dr. A. Grant (*Indian Ann. of Med. Sci.* 1854, vol. ii., p. 224)—Ph. Ind.

" Physiological Actions. — The pulp is stimulant, stomachic, antipyretic, antiscorbutic, and possesses a beneficial influence over the mucous membrane of the alimentary canal."

" Therapeutic Uses. — The pulp of the fruit has proved very useful in my hands in dysentery, diarrhoea, aphthae, land-scurvy and some continued fevers. I have generally used it in the forms of powder and syrup. The pulp of the ripe fruit is more suited for the syrup, and that of the half-ripe for the powder. The powder, again, is more useful in acute diseases, and the syrup in the chronic. In acute dysentery, the powder is required to be employed in much larger doses than in any other disease. The first good effect of the powder in acute dysentery is generally the disappearance of blood and a proportionate increase of the faeculent matter in evacuations. In fact, the powder seems to have more power in altering the nature of the dysenteric motions than in reducing their number. To check the frequency of evacuations, the powder generally requires the combination of opiates or some other astringent medicines. The powder and syrup, particularly the former, are also very useful in relieving the febrile condition in some forms of continued fever, including the hectic and typhoid. The

abnormal temperature is reduced under its use in a remarkable manner and deserves particular attention.

"Preparations. — Powder and Syrup. — Powder: The pulp being first prepared and dried in the manner described below, is reduced to a fine powder in the usual way and kept in a closed vessel. Syrup : Take of the dry pulp, five ounces ; soak it in two pints of water for a few hours or till it becomes soft ; rub it well with the hand and strain the liquid through cloth up to one pint ; add to the latter fifteen ounces of refined

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sugar, and heat it till it acquires the consistency of a thick syrup. When the syrup is prepared from the pulp of the large or cultivated variety of bael-fruit, the quantity of sugar required is only ten ounces.

" Doses. — Of the powder, as a remedy in dysentery, from

twenty to forty-five grains ; and for all other purposes, from ten to twenty grains ; four, five or six times in the twenty-four hours. Of the syrup, from four fluid drachms to one fluid ounce every third or fourth hour. The small or common variety of bael fruit being, as a medicine, stronger than the larger or cultivated variety, the dose of its powder should always be less than that of the latter by one-third. .

" Remarks. — There are two varieties of Male Marmelos, the small or common, and the large or cultivated. There is no distinct difference between the medical properties of both varieties [Pankaj Oudhia's Comment: *Disagree*], except that the fruit of the small or common variety, which is described in every botanical work in this country, is much stronger, as a drug, than that of the large or cultivated variety. The large or cultivated variety differs from the small or common one in the following points : —

(C Generally free from spines ; leaflets broadly and abruptly acuminate, instead of oblong or broadly lanceolate, and when bruised, have an agreeable and aromatic odor ; fruit eatable and delicious when quite ripe, almost invariably globular, generally two or three times larger than that of the small or

common variety, and sometimes attains the size of a small child's head.

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" The pulp of the ripe and half-ripe fruit of both varieties is the best and most useful part of the plant for medicinal purposes. The pulp should be removed from the rind before the fruit is dry, cut into small pieces and dried in the sun. The pulp of the ripe fruit of the large variety is, first, of flesh color, but gradually becomes dark-brown ; it has an agreeable and aromatic odour and a terebinthinate and sweetish taste. It is not destroyed by keeping. However old it may be, if soaked in water for some hours, it becomes as soft as it is when fresh, and still retains its characteristic smell and taste.

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" From its greater abundance and cheapness, the Wood-apple

(Feronia elephantum) is occasionally substituted for the Bael-

fruit in the bazaar when the latter is sold in large quantities, **[Pankaj Oudhia's Comment: *At present it is difficult to get Feronia in natural habitat. Hence it is not mixed with Bael fruits. Bael fruits are available in plenty. This is my observation in Chhattisgarh, Jharkhand and Orissa.*]**

but there will be no difficulty in distinguishing them from each

other, if the following distinctions be attended to : —

Bael- fruit of both varieties.

1. Generally roundish, ovoid or
otaovate, and sometimes oblong.

2. Generally about the size of a
large orange, often as big as a large
pomegranate, and sometimes attains
the size of a small child's head.

3. Greenish or yellowish brown in color, smooth and slightly shining.

4. Rind very hard, woody and thin.

5. In the centre of the pulp there are from five to eighteen small cells, each of which contains some mucus, and from one to twelve or more seeds. (In the small variety of bael-fruit, the seeds are often absent in some cells.)

6. The seeds are oblong, flat or compressed, woolly, and about the size of a lime-seed.

7. The mucus is thick, very tenacious, transparent, and strongly terribinathinate in smell and taste.

1.
cal.

Wood-apple.

Almost always round or spheri-

2. Generally about the size of an
orange, and often as large as a pome-
granate.

3. Greenish white or ash colored,
neither smooth nor shining.

4. Rind hard, woody, and though
somewhat thicker, yet more easily
broken.

5. No cells at all, and the seeds
are numerous and embedded in the
pulp. A fruit contains about 500 seeds.

6, The seeds are generally about
the same shape, but onehalf smaller
in size.

7. Contains no mucus, but is acid
from the presence of citric acid.

8. When the fruit is quite ripe, the | 8. In the same condition, the pulp
pulp is of a brownishred or reddish is of a reddish grey or flesh color,
yellow color, with a strong balsamic ' with a very agreeable and slightly

odour and sweetish taste. | aromatic odor and sub-acidj taste"

(Moodeen Sheriff.)

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